

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 41. (Cancelled)

42. (Currently Amended) The process according to claim ~~69~~70, wherein said heat-treating is carried out at a temperature range of from 45°C to 95°C.

43. (Previously Presented) The process according to claim 42 wherein said heat-treating is carried out at 55°C..

44. (Previously Presented) The process according to claim 42, wherein said heat-treating is carried out at 75°C.

Claims 45 - 46. (Cancelled)

47. (Currently Amended) The process according to claim ~~69~~70, wherein said donor cell is selected from the group consisting of embryonic cells, fetal cells, and somatic cells.

48. (Currently Amended) The process according to claim ~~69~~70, wherein said donor cell is a cultured cell.

49. (Currently Amended) The process according to claim ~~69~~70, wherein said donor cell is a granulosa cell.

50. (Currently Amended) The process according to claim ~~69~~70, wherein said donor cell is a non-living cell.

51. (Currently Amended) The process according to claim 6970, wherein said chromatin is subjected to at least one genetic modification.

52. (Previously Presented) The process according to claim 51 wherein said genetic modification comprises the insertion of at least one heterologous DNA.

53. (Previously Presented) The process according to claim 51 wherein said genetic modification comprises the deletion of at least one homologous gene.

54. (Previously Presented) The process according to claim 51 wherein said genetic modification comprises the modification of at least one homologous gene.

55. (Previously Presented) The process according to claim 51 wherein said genetic modification comprises the duplication of at least one homologous gene.

56. (Cancelled)

57. (Currently Amended) The process according to claim 6970, wherein said denaturing treatment is carried out on the nucleus, said nucleus being inside the donor cells.

58. (Cancelled)

59. (Currently Amended) The process according to claim 6970, wherein said oocyte is matured *in vitro*.

60. (Currently Amended) The process according to claim 6970, wherein the nuclear transfer is carried out by injecting the donor nucleus into the recipient cell.

Claims 61 - 65. (Cancelled)

66. (Currently Amended) The process according to claim ~~64~~71, wherein the embryo of step a is a genetically modified embryo.

67. (Cancelled)

68. (Currently Amended) The process according to claim ~~64~~71, wherein step a is carried out *in vivo*.

69. (Cancelled)

70. (New) A process for reconstructing an animal embryo of a species selected from the group consisting of mouse, cattle, sheep and goat, comprising:

- a. transferring into a recipient cell a diploid nucleus from a donor cell or the donor cell including said nucleus, said donor cell being a G<sub>1</sub> or G<sub>0</sub> cell from the same species and said recipient cell being an enucleated metaphase II oocyte of a non-primate mammalian species, wherein the chromatin within said nucleus is subjected to denaturing by heat-treating carried out at melting temperature of the transcriptional regulatory proteins before transferring the nucleus into the recipient cell; and
- b. further activating and culturing the recipient cell *in vitro* or *in vivo*.

71. (New) A process for generating an animal selected from the group consisting of mouse, cattle, sheep, and goat comprising:

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- a. culturing an animal embryo reconstructed according to claim 70 to obtain blastocysts;
- b. transferring the blastocysts into a suitable recipient animal;
- c. causing said blastocysts to develop to term and further breeding the resulting animal.